

Appl. No. 09/602,395

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1. (Amended) A method of forming an oxide region over a semiconductor substrate, comprising:

forming a nitrogen-comprising layer across at least some of a silicon surface of the semiconductor substrate; and

after forming the nitrogen-comprising layer, growing an oxide region from the at least some of the semiconductor substrate, the oxide region having a thickness of at least about 70 angstroms, the nitrogen of the nitrogen-comprising layer being dispersed within the oxide region.

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2. (Amended) The method of claim 1 wherein the oxide region comprises silicon dioxide.

3. (Amended) The method of claim 1 wherein the semiconductor substrate comprises monocrystalline silicon and the oxide region is grown from the monocrystalline silicon and comprises silicon dioxide.

4. The method of claim 1 wherein the nitrogen-comprising layer is formed from plasma activated nitrogen species.

5. (Amended) The method of claim 1 wherein the nitrogen-comprising layer is formed by remote plasma nitridation utilizing nitrogen species generated in a plasma that is at least about 12 inches from the semiconductor substrate.

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6. (Amended) The method of claim 1 wherein the nitrogen-comprising layer is formed by remote plasma nitridation utilizing nitrogen species generated in a plasma that is at least about 12 inches from the semiconductor substrate; and wherein the semiconductor substrate not being biased relative to the plasma during formation of the nitrogen-comprising layer.

7. (Amended) The method of claim 6 wherein the semiconductor substrate is maintained at a temperature of from about 550 °C to about 1000 °C during formation of the nitrogen-comprising layer.

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8. (Amended) The method of claim 6 wherein the semiconductor substrate is exposed to the nitrogen species for a time of from greater than 0 minutes to about about 5 minutes.

9. (Amended) The method of claim 1 wherein the nitrogen-comprising layer is formed by plasma nitridation utilizing nitrogen species generated in a plasma that is at least about 4 inches from the semiconductor substrate.

10. (Amended) The method of claim 9 wherein the semiconductor substrate is maintained at a temperature of from about 0 °C to about 400 °C during formation of the nitrogen-comprising layer.

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11. (Amended) The method of claim 9 wherein the semiconductor substrate is exposed to the nitrogen species for a time of from greater than 0 seconds to about 30 seconds.

12. (Amended) A method of forming a pair of oxide regions over a semiconductor substrate, comprising:

forming a first oxide region which covers only a portion of the semiconductor substrate;

forming a nitrogen-comprising layer across at least some of the first oxide region and across at least some of the semiconductor substrate that is not covered by the first oxide region; and

after forming the nitrogen-comprising layer, growing a second oxide region from the at least some of the semiconductor substrate that is not covered by the first oxide region, the second oxide region having a thickness of at least about 70 angstroms.

13. (Amended) The method of claim 12 wherein the first oxide region is formed by:

forming an oxide layer over the covered region and at least some of the uncovered region of the semiconductor substrate; and

removing the oxide layer from over the uncovered region of the semiconductor substrate.

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14. (Amended) The method of claim 13 wherein the oxide layer is formed by exposing the semiconductor substrate to oxidizing conditions.

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15. (Amended) The method of claim 12 wherein the nitrogen-comprising layer is formed by remote plasma nitridation utilizing nitrogen species generated in a plasma that is at least about 12 inches from the semiconductor substrate.

16. (Amended) The method of claim 12 wherein the nitrogen-comprising layer is formed by plasma nitridation utilizing nitrogen species generated in a plasma that is at least about 4 inches from the semiconductor substrate.